

REMARKS

Applicant respectfully requests reconsideration of this application as amended.

Claims 27-43 are pending in the application. Claims 27, 29-34, and 37-43 have been amended. No claims have been canceled. Claims 44-108 have been added.

Applicant has amended the claims, particularly to overcome the Examiner's rejection of indefiniteness under 35 U.S.C. §112 and to more clearly distinguish the invention from the prior art cited. The Examiner initially rejected claims 38-42 under 35 U.S.C. §112, second paragraph. Accordingly, Applicant has amended claims 27, 29-34, and 37-43 to particularly point out and distinctly claim, in full, clear, concise and exact terms, the subject matter which Applicant regards as his invention.

The Examiner rejected Claims 1-43 under 35 U.S.C. §102(e) as being anticipated by Anderson et al. Applicant respectfully disagrees. Claim 27 as amended sets forth a system with the following elements:

a memory storing a codestream with a header having at least one marker to identify locations of data within the codestream;
at least one output device;
a parser coupled to the memory and coupled to receive device characteristics from said at least one output device, wherein the parser is operable to perform device-dependent quantization prior to decoding the codestream, on the codestream in view of the device demonstrations using the at least one marker to identify locations of data within the codestream when selecting portions of the codestream for output to the at least one output device.
(emphasis added)

As set forth above, the present invention as claimed sets forth a system that includes a memory that stores a codestream with a header having at least one marker to identify locations of data within the codestream. The system also includes a parser that performs device dependent quantization on the codestream in view of the device characteristics using the at least one marker to identify locations of data within the codestream when selecting portions of the codestream for output to the output device. The device dependent quantization performed by the parser also occurs prior to decoding of the codestream. These features are not found in Anderson.

Anderson sets forth use of marker segments. These marker segments are interpreted by a parser to determine an operation to be performed on the data. For example, with a SOF marker segment, decoder/encoder execution of the marker causes a series of parameters to be read and stored which describe an image and the type of compression to be performed. Thus, the marker segments do not identify locations of data within the codestream, and instead, specify information that is interpreted by the parser to determine the precise operation to be performed on data.

Furthermore, although Anderson does disclose a parser, that parser does not perform device dependent quantization based on device characteristics received from an output device in the system where the device dependent quantization occurs on the codestream using the marker to identify locations of the data within the codestream when selecting portions of the codestream for output. That is, the present invention as claimed performs the quantization on the codestream so that the codestream is truncated for the specific output device. There is nothing in Anderson that describes such a parser. The Examiner in asserting that Anderson does possess such disclosure has set forth a section of Anderson, namely Column 4, lines 22-28 and the described SOF marker. However, this marker, as already described, does not involve performing

device dependent quantization based on output device characteristics. In fact, this marker segment does not identify locations of data within the codestream.

Moreover, there is nothing in Anderson that describes performing device dependent quantization prior to decoding the codestream. In view of this, application respectfully submits the present invention is not anticipated by Anderson.

Claims 44-108 have been added. These claims are to amend parser and parsing techniques. Applicant respectfully submit these claims are allowable. Accordingly, Applicant respectfully submits that the rejections under 35 U.S.C. §112 and §102(e) have been overcome by the amendments and the remarks and withdrawal of these rejections is respectfully requested. Applicant submits that Claims 27, 29-34, and 37-43 as amended and Claims 44-108 are now in condition for allowance and such action is earnestly solicited.

Please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

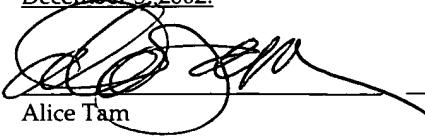
Dated: 12/5, 2002



Michael J. Mallie
Attorney for Applicant
Registration No. 36,591

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8598

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Alice Tam 12-5-02
Date

VERSION WITH MARKINGS TO SHOW CHANGES MADE

27. (Amended) A system comprising:

a memory storing a codestream with a header having at least one marker to identify locations of data within the codestream;
at least one output device;
a parser coupled to the memory and coupled to receive device characteristics from said at least one output device, wherein the parser is operable to perform device-dependent quantization, prior to decoding the codestream, on the codestream in view of the device characteristics using the at least one marker to identify locations of data within the codestream when selecting portions of the codestream for output to the at least one output device.

28. (Unchanged) The system defined in Claim 27 wherein the codestream comprises lossless compressed image data.

29. (Amended) The system defined in Claim 27 wherein said at least one marker indicates the number of components, any subsampling, and any alignment used for every tile in codestream.

30. (Amended) The system defined in Claim 27 wherein the codestream includes a main header and one or more tiles and each of the one or more tiles [tile] in the codestream is preceded by a local header.

31. (Amended) The system defined in Claim 30 wherein the main header includes information that applies [applied] to all tiles in the codestream and each local

header includes information that only applies to [its associated] the tile to which it precedes.

32. (Amended) The system defined in Claim 31 wherein information in at least one of the local headers overrides information in the main header.

33. (Amended) The system defined in Claim 27 wherein the parser uses markers in the codestream to identify portions of the codestream for truncation [quantize the codestream].

34. (Amended) The system defined in Claim 33 wherein at least one of the markers indicates frequency information.

35. (Unchanged) The system defined in Claim 27 further comprising a compressor to create the codestream.

36. (Unchanged) The system defined in Claim 27 wherein the parser comprises a quantization selection apparatus.

37. (Amended) The system defined in Claim 36 wherein the quantization selection apparatus transforms and quantizes a set of compressed image data by discarding bitplanes of various coefficients in the compressed image data.

38. (Amended) The system defined in Claim 27 wherein the codestream includes one or more tags, and wherein one of the one or more tags indicates importance levels within the data in each tile.

39. (Amended) The system defined in Claim 27 wherein the codestream includes one or more tags, and wherein [the] at least one tag indicates importance level locator signals by which the parser truncates the codestream.

40. (Amended) The system defined in Claim 27 wherein the codestream includes one or more tags, and wherein at least one [the] tag indicates the number of importance levels to be kept in the codestream.

41. (Amended) The system defined in Claim 27 wherein the codestream includes one or more tags, and wherein at least one [the] tag indicates the number of bytes to keep in the codestream.

42. (Amended) The system defined in Claim 27 wherein the codestream includes one or more tags, and wherein at least one [the] tag[s] includes an indication in each tile associates the number of bytes with the importance level.

43. (Amended) The system defined in Claim 33 wherein the at least one marker indicates the number of bytes of an importance level in each tile.

Please add the following claims 44-108:

44. (New) A system comprising

a parser responsive to receiving a codestream having compressed data and markers that include at least one marker to indicate a location of at least one bit plane of a coding unit within a codestream for parsing, the parser to parse the bit stream to make truncated data, thereby quantizing the codestream; and
a channel coupled to receive the truncated data.

45. (New) The system defined in Claim 44 wherein the parser performs parsing without decoding or reencoding the compressed data.

46. (New) The system defined in Claim 44 wherein the parser selects compressed data from the codestream to include in the truncated data based on output device characteristics.

47. (New) The system defined in Claim 44 wherein the parser receives characteristics of an output device to determine quantization necessary for the output device.

48. (New) The system defined in Claim 44 wherein the at least one marker indicates what the compressed data in the codestream is.

49. (New) The system defined in Claim 44 wherein the at least one marker is in a tag in the codestream, the parser using the tag to guide in quantizing the codestream.

50. (New) The system defined in Claim 44 wherein the parser selects compressed data from the codestream based on characteristics of an output device.

51. (New) The system defined in Claim 50 wherein the output device is a display.

52. (New) The system defined in Claim 50 wherein the output device is a printer.

53. (New) The system defined in Claim 52 wherein the printer is a high spatial resolution, low pixel depth printer.

54. (New) The system defined in Claim 44 further comprising a decompressor coupled to receive the truncated data and decompress the truncated data for an output device.

55. (New) The system defined in Claim 44 wherein the parser quantizes the codestream to obtain a predetermined level of distortion.

56. (New) The system defined in Claim 44 wherein the parser quantizes the codestream by performing scaling.

57. (New) The system defined in Claim 44 wherein performing scaling comprises choosing resolution.

58. (New) The system defined in Claim 44 wherein the parser quantizes the codestream by performing thresholding.

59. (New) The system defined in Claim 44 wherein the parser quantizes the codestream by performing dithering.

60. (New) The system defined in Claim 44 wherein the parser quantizes the codestream by discarding bit planes of one or more frequency bands.

61. (New) The system defined in Claim 44 wherein the truncated data includes bit planes that lead to a predetermined level of distortion.

62. (New) The system defined in Claim 44 wherein the truncated data includes bit planes that lead to a predetermined bit rate.

63. (New) The system defined in Claim 44 wherein the parser selects compressed data to allow decomposition of a region of interest.

64. (New) The system defined in Claim 44 wherein the truncated data consists of bits necessary to a transition from a preview image to a printer resolution image.

65. (New) The system defined in Claim 44 wherein the truncated data consists of bits necessary to a transition from a preview image to a medical monitor image.

66. (New) The system defined in Claim 44 wherein the at least one marker is in a tag for each tile.

67. (New) The system defined in Claim 44 wherein each tile in the codestream is preceded by a header.

68. (New) The system defined in Claim 44 wherein the at least one marker is in a header in the codestream.

69. (New) The system defined in Claim 44 wherein the parser modifies tags in the codestream after quantization of parsing.

70. (New) The system defined in Claim 69 wherein the parser modifies tags to reflect the truncated data as a new codestream.

71. (New) The system defined in Claim 44 wherein the compressed data comprises a lossless compression image.

72. (New) The system defined in Claim 44 further comprising a compressor to create the compressed data.

73. (New) A method comprising
receiving a codestream having compressed data and markers that include at least one marker to indicate a location of at least one bit plane of a coding unit within a codestream for parsing;
parsing the bit stream using a parser to make truncated data, thereby quantizing the codestream; and
sending the truncated data to a channel.

74. (New) The method defined in Claim 73 wherein parsing the bit stream occurs without decoding or reencoding the compressed data.

75. (New) The method defined in Claim 73 wherein parsing the bit stream comprises selecting compressed data from the codestream to include in the truncated data based on output device characteristics.

76. (New) The method defined in Claim 73 further comprising:
the parser receiving characteristics of an output device; and
determining quantization necessary for the output device based on the characteristics.

77. (New) The method defined in Claim 73 wherein the at least one marker indicates what the compressed data in the codestream is.

78. (New) The system defined in Claim 73 wherein the at least one marker is in a tag in the codestream, and further wherein parsing the bit stream comprises using the tag to guide in quantizing the codestream.

79. (New) The method defined in Claim 73 wherein parsing the bit stream comprises the parser selecting compressed data from the codestream based on characteristics of an output device.
80. (New) The method defined in Claim 79 wherein the output device is a display.
81. (New) The method defined in Claim 79 wherein the output device is a printer.
82. (New) The method defined in Claim 79 wherein the printer is a high spatial resolution, low pixel depth printer.
83. (New) The method defined in Claim 73 wherein parsing the bit stream comprises performing quantization to obtain a predetermined level of distortion.
84. (New) The method defined in Claim 73 wherein parsing the bit stream comprises performing scaling.
85. (New) The method defined in Claim 73 wherein performing scaling comprises choosing a resolution.

86. (New) The method defined in Claim 73 wherein parsing the bit stream comprises performing thresholding.

87. (New) The method defined in Claim 73 wherein parsing the bit stream comprises performing dithering.

88. (New) The method defined in Claim 73 wherein parsing the bit stream comprises discarding bit planes of one or more frequency bands.

89. (New) The method defined in Claim 73 wherein the truncated data includes bit planes that lead to a predetermined level of distortion.

90. (New) The method defined in Claim 73 wherein the truncated data includes bit planes that lead to a predetermined bit rate.

91. (New) The method defined in Claim 73 wherein the parser selects compressed data to allow decomposition of a region of interest.

92. (New) The method defined in Claim 73 wherein the truncated data consists of bits necessary to a transition from a preview image to a printer resolution image.

93. (New) The method defined in Claim 73 wherein the truncated data consists of bits necessary to a transition from a preview image to a medical monitor image.

94. (New) The method defined in Claim 73 wherein the at least one marker is in a tag for each tile.

95. (New) The method defined in Claim 73 wherein each tile in the codestream is preceded by a header.

96. (New) The method defined in Claim 73 wherein the at least one marker is in a header in the codestream.

97. (New) The method defined in Claim 73 further comprising modifying tags in the codestream after quantization of parsing.

98. (New) The method defined in Claim 97 wherein modifying tags in the codestream comprises modifying tags to reflect the truncated data as a new codestream.

99. (New) An article of manufacture having one or more recordable media storing instructions thereon which, when executed by a system, cause the system to:

receive a codestream having compressed data and markers that include at least one marker to indicate a location of at least one bit plane of a coding unit within a codestream for parsing;

parse the bit stream using a parser to make truncated data, thereby quantizing the codestream; and

send the truncated data to a channel.

100. (New) The article of manufacture defined in Claim 99 wherein parsing the bit stream occurs without decoding or reencoding the compressed data.

101. (New) The article of manufacture defined in Claim 99 wherein the instructions that cause the system to parse the bit stream comprise instructions which, when executed by the system, cause the system to select compressed data from the codestream to include in the truncated data based on output device characteristics.

102. (New) The article of manufacture defined in Claim 99 further comprising instructions which, when executed by the system, cause the system to:

receive characteristics of an output device; and

determine quantization necessary for the output device based on the characteristics.

103. (New) The article of manufacture defined in Claim 99 wherein the at least one marker indicates what the compressed data in the codestream is.

104. (New) The article of manufacture defined in Claim 99 wherein the instructions to cause the system to parse the bit stream comprise instructions, which when executed by the system, cause the system to select compressed data from the codestream based on characteristics of an output device.

105. (New) The article of manufacture defined in Claim 104 wherein the output device is a display.

106. (New) The article of manufacture defined in Claim 104 wherein the output device is a printer.

107. (New) The article of manufacture defined in Claim 106 wherein the printer

is a high spatial resolution, low pixel depth printer.

108. (New) A system comprising:

a parser to receive a codestream of lossless compressed data with markers;

a channel coupled to the parser;

a decompressor coupled to the channel; and

an output monitor coupled to supply output supply characteristics to the parser to control quantization performed by the parser, the parser to parse the codestream based on one or more markers in the codestream in order to perform device dependent quantization of the codestream.